Appendix B: Notation

a Angle for directional variogram

b Slope of variogram

c Generic constant used for cutoff value in probability distribution or indicator transformation

e Kriging error

$\tilde{e}$ Reduced kriging error

f Explanatory variables used in drift equations

g Nugget of variogram

h Lag or distance between two data points

n Number of data points

m Number of locations in a given block

r Range of variogram

s Sill of variogram

w Weight

$\underline{x}(u,v)$ Location in terms of coordinates u and v

$z(\underline{x})$ Measurement of Z at location $\underline{x}$

$\hat{z}(\underline{x}_1)$ Kriging estimate using measured data

A Area of triangle

B Area designation in block kriging

C Population covariance function

$\hat{C}$ Sample covariance function

$C(\underline{x}_1,\underline{x}_2)$ Covariance of data values at locations $\underline{x}_1$ and $\underline{x}_2$

D_{ij} Difference in values between data points i and j

E Expectation

$I(.)$ Indicator function

K Number of variogram bins

$N(.)$ Number of squared differences in variogram bin

P Probability

S_n^2 Sample variance on n observations

V Voronoi polygon

Var Population variance

$W(\underline{x})$ Co-kriging random variable at location $\underline{x}$

$Y(\underline{x})$ Transformed variable at location $\underline{x}$

Z Regionalized random variable

$Z(\underline{x})$ Potential value of Z at location $\underline{x}$

$\hat{Z}(x)$ Predictor or estimate of Z at location $\underline{x}$, obtained from kriging

$Z^*(\underline{x})$ Residuals of $Z(\underline{x})$

$\hat{Z}(\underline{x})$ Arbitrary predictor of Z at location $\underline{x}$

$\overline{Z}_n$ Sample mean of n observations

β Regression coefficient used in polynomial representation for drift

$\hat{\gamma}$ Sample variogram

γ Theoretical variogram

$\gamma(h)$ Theoretical variogram for lag h

λ Optimization coefficient

η Parameter used in spline analysis

$\rho\,(h)$ Correlation function as function of h

$\sigma(\underline{x})$ Spatial standard deviation at location $\underline{x}$

$\sigma^2(\underline{x})$ Spatial variance at location $\underline{x}$

$\sigma_k(\underline{x})$ Kriging standard deviation at location $\underline{x}$

$\sigma_k^2(\underline{x})$ Kriging variance at location $\underline{x}$

$\mu(\underline{x})$ Spatial mean at location $\underline{x}$